

Amendments to the Specification:

[0002] This disclosure is a divisional application claiming the benefit of the filing date of pending U.S. patent application entitled: "Dual Action Aspiration Biopsy Needle," by the same inventor, filed on September 23, 2002, bearing Serial No. 10/065,155, now U.S. patent No. 6,709,408, which is a continuation-in-part of U.S. Patent No. 6,592,608 that issued on July 15, 2003 U.S. Serial No. 09/682,252, filed 08/09/2001 by the same inventor, now abandoned.

[0008] The first improved procedure involves the cutting or shearing of one or more visible pieces of the tumor or lesion by a relatively large bore needle. This type of biopsy is known as a core tissue biopsy and is performed with a core tissue biopsy needle. The pieces of tissue are usually about one to three millimeters in length and are thus visible to the unaided eye. They cannot be immediately examined under a microscope because they are too thick for light to pass therethrough. Accordingly, they must first be sliced into a plurality of very thin slices by a tissue-slicing machine. After slicing, they are then stained with a tissue fixative *e.g.*, formalin, glutaraldehyde, *etc.*, and placed upon a microscope slide for diagnostic purposes. For a period of time sufficient to cause crosslinking of connective tissue proteins present in the tissue, the fixed tissue is sliced into thin sections approximately eight (8) microns thick, the tissue sections are mounted on slides and cell-selective histological stains are applied to stain the tissue prior to microscopic examination. This non-frozen tissue preparation technique typically requires twenty four to forty eight (24-48) hours to complete so the pathologist's diagnosis of the breast lesion may not be available until twenty four to seventy two (24-72) hours after the biopsy specimen was removed from the breast. Accordingly, histopathological examination and diagnosis of breast lesions may be much more time-consuming than the histopathological examination and diagnosis of other types of lesions.

[0028] In a fourth embodiment, the slot is also angled relative to a transverse axis of the needle such that a bottom of the slot is positioned proximal to an opening of the slot and the second sharp edge thereby created is coincident with the exterior surface if of the needle.

[0046] FIG. 6 is an enlarged longitudinal sectional view of a third embodiment;

[0078] As drawn, the cut that forms sharp edges 20, 20a, 20b, and 20f ~~are~~is disposed substantially parallel to the bevel cut that forms first sharp edge 14 of needle 10. Accordingly, said sharp edges scrape tissue with the same degree of efficiency as first sharp edge 14. The scraping action provided by these sharp edges is during the distal-to-proximal stroke of needle 10 whereas the scraping action provided by first sharp edge 14 is during the proximal-to-distal stroke.

ABSTRACT OF THE DISCLOSURE

~~A dual-action biopsy needle scrapes tissue of cellular thickness~~size from a lesion during ~~forward and rearward reciprocations~~ repeated proximal-to-distal thrusts of the needle along its longitudinal axis of symmetry. A first sharp edge, formed by a beveled distal end of the needle, scrapes tissue during proximal-to-distal travel of the needle. A second sharp edge is provided by a transversely disposed slot formed in the needle near the first sharp edge. The second sharp edge ~~also~~ scrapes tissue during ~~distal-to-proximal proximal-to-distal~~ travel of the needle. ~~In a first embodiment, the~~ The second sharp edge ~~is~~may be coincident with an exterior surface of the needle. ~~In a second embodiment, the second sharp edge is elevated with respect to the exterior surface, and in a third embodiment the second sharp edge is~~ or recessed with respect to the exterior surface. Additional embodiments include a second slot, a channel, and Another embodiment includes a hinge for enabling pivotal movement of the second and third sharp edges ~~sharp edge~~.